

WHAT IS CLAIMED IS:

1. An operator assembly, comprising:
  - a housing;
  - a driving gear accommodated in the housing;
  - a first arm;
  - a first gear driven by the driving gear and pivoting the first arm; and
  - a bearing accommodated in the first gear and secured in the housing, the bearing comprising a base, a generally cylindrical middle axially extending from the base and with a smaller radius than the base, an upper portion axially extending from the middle and with a smaller radius than the middle, and a shoulder defined between the middle and the upper portion.
2. The operator assembly of claim 1, in which the housing includes a base and a cover, the bearing secured between the base and the cover.
3. The operator assembly of claim 2, in which the first gear is integral to the first arm.
4. The operator assembly of claim 3, in which the first arm is articulated.
5. The operator assembly of claim 2, further comprising a second arm and a second gear, the second gear meshed with the first gear and pivoting the second arm.
6. The operator assembly of claim 1, in which the bearing further comprises a friction-increasing surface.

7. The operator assembly of claim 6, in which the friction-increasing surface comprises a knurling disposed proximate the bearing base.
8. The operator assembly of claim 1, in which the bearing further comprises a recess defined between the middle and the upper portion.
9. The operator assembly of claim 1, in which the driving gear includes a worm.
10. The operator assembly of claim 1, in which the bearing shoulder is swaged.
11. The operator assembly of claim 1, in which the bearing is accommodated on a positioning post.
12. The operator assembly of claim 11, in which the positioning post is swaged.
13. An operator assembly, comprising:
  - a cover comprising an angled tubular portion and a positioning post;
  - a base mated to the cover;
  - a worm rotatably disposed in the tubular portion;
  - a flanged bearing accommodated by the positioning post and comprising a base, a middle portion, an upper portion, and a shoulder between the middle portion and upper portion, and
  - an operator arm subassembly comprising at least one arm pivotally attached between the

cover and the base, said at least one arm comprising a gear and accommodating the flanged bearing.

14. The operator assembly of claim 13, in which the base comprises a knurled surface.

15. The operator assembly of claim 13, in which the shoulder is swaged.

16. The operator assembly of claim 13, in which the flanged bearing defines a recess between the shoulder and the upper portion.

17. The operator assembly of claim 13, in which the positioning post is swaged.

18. An operator assembly, comprising:

a base;

a cover mating with the base and comprising a positioning post;

a worm rotatably accommodated by the base and the cover;

an operator arm subassembly comprising a pivot arm, a planet gear arm pivotably joined to the pivot arm and including a planet gear portion, and a sun gear rotatably meshed with the worm and the planet gear portion; and

a flanged bearing secured between the base and the cover, pivotally accommodated in the pivot arm and sun gear, and comprising a bearing base, a middle portion, an upper portion, and a shoulder defined between the middle portion and the upper portion.

19. The operator assembly of claim 18, in which the flanged bearing further comprises a knurled surface disposed proximate the bearing base.

20. The operator assembly of claim 18, in which the bearing shoulder is swaged.

21. The operator assembly of claim 18, in which the flanged bearing defines a recess between the shoulder and the upper portion.

22. The operator assembly of claim 18, in which the flanged bearing is accommodated by the positioning post.

23. The operator assembly of claim 22, in which the positioning post is swaged.

24. An operator assembly, comprising:

a base;

a cover matable to the base and comprising a positioning post;

a worm rotatably accommodated by the base and the cover;

a gear arm comprising a gear meshed to the worm gear and defining a gear aperture; and

a flanged bearing disposed in the gear aperture and comprising a bearing aperture accommodating the positioning post, an upper portion, a middle portion extending axially from the upper portion and having a greater radius than the upper portion, a base extending axially from the middle portion and having a greater radius than the middle portion, and a shoulder defined between the middle portion and the upper portion.

25. The operator assembly of claim 24, in which the flanged bearing further comprises a knurled surface disposed proximate the bearing base.

26. The operator assembly of claim 24, in which the bearing shoulder is swaged.

27. The operator assembly of claim 24, in which the flanged bearing defines a recess between the shoulder and the upper portion.

28. The operator assembly of claim 24, in which the flanged bearing is accommodated by the positioning post.

29. The operator assembly of claim 28, in which the positioning post is swaged.

30. A method of assembling an operator, comprising:

pivotally joining a pivot arm and a planet gear arm;

inserting a flanged bearing through an aperture defined in the pivot arm and through an aperture defined in a sun gear, the flanged bearing comprising a base, a middle portion axially extending from the base, an upper portion axially extending from the middle portion, and a shoulder defined between the middle portion and the upper portion;

accommodating the flanged bearing about a positioning post of a base;

rotatably disposing a worm in the base and in a cover; and

mating the base and the cover.

31. The method of claim 30, further comprising swaging the shoulder.
32. The method of claim 31, in which the flanged bearing further comprises a shoulder, in which the cover defines a contour accommodating the shoulder and in which the flanged bearing is secured between the cover accommodating contour and the base.
33. The method of claim 31, in which the base defines a recess and in which the bearing base is accommodated in the base recess.
34. The method of claim 30, in which the flanged bearing is secured between the base and the cover.
35. The method of claim 30, further comprising the step of swaging the positioning post.
36. A method of assembling an operator, comprising:
  - disposing a flanged bearing in an aperture defined in a gear, the flanged bearing comprising a bearing base, a middle portion extending from the bearing base, an upper portion extending from the middle portion, and a shoulder defined between the middle portion and the upper portion, the gear extending from a gear arm;
  - securing the flanged bearing between a cover and a base; and
  - mating the base and the cover.

37. The method of claim 36, in which the cover includes a positioning post and in which the secured flanged bearing is accommodated by the positioning post.
38. The method of claim 37, further comprising the step of swaging the positioning post.
39. The method of claim 36, in which the gear arm is pivotally attached to an extension.